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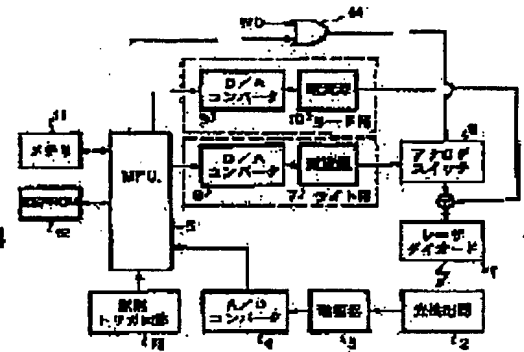
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## (54) LASER DIODE DRIVING CURRENT SEARCH METHOD AND OPTICAL INFORMATION RECORDER

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To prevent a laser diode from becoming a rated beam output or above and to search a laser diode drive current in the vicinity of the rated beam output value by calculating differential efficiency of a driving current to a beam output from the beam output in a point lower than the present driving current.

**SOLUTION:** An initial value of an output voltage  $I$  of a D/A converter 6 is set lower than the rated output of the laser diode 1 by considering an estimated maximum temp. change much, and the value of an A/D converter 4 corresponding to the target beam output is set in a memory 11 as a name of  $P_t$ . The output voltage  $I$  is outputted to the D/A converter 6, and the beam output value then is read by the A/D converter 4 to make it  $P_1$ . The beam output value when the voltage subtracting an efficiency measuring differential amount  $\alpha$  from the output voltage  $I$  is outputted to the converter 6 is made  $P_2$ , and the differential efficiency  $\eta$  is calculated from the  $P_1$  and  $P_2$ , and  $I$  is updated by  $I = I + (P_t - P_1) \div \eta$ . Until the measured value  $P_1$  becomes within the error range of the target value  $P_t$ , the above processing is repeated, and the output voltage  $I$  is obtained.



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